UNITED STATES ANTARCTIC PROGRAM

National Science Foundation
Contract OPP 0000373

Report on the FY 2003
USAP Research Support Facilities Survey
Vol. I – Narrative, Figures, and Tables 1, 3-12

Raytheon

Polar Services

7400 S Tucson Way
Centennial, Colorado
80112-3938 USA
303.790.8606

Raytheon

Technical Services Company LLC
Polar Services

7400 S Tucson Way
Centennial, Colorado
80112-3938 USA
303.790.8606

December 11, 2003

National Science Foundation
Office of Polar Programs
4201 Wilson Boulevard, Suite 755S
Arlington, VA 22230

Attention: Dr. Harry Mahar

Subject: **REPORT ON FY 2003 USAP RESEARCH SUPPORT FACILITIES SURVEY**

Dear Dr. Mahar,

Raytheon Polar Services Company forwards the subject report, which consists of two volumes: Volume I "Narrative, Figures, and Tables 1, 3-12" and Volume II "Table 2 Master Report of Survey Responses" (published in hard copy format and distributed to you only under separate cover). The report reflects 77 responses of 148 total science projects, which is a 52% response rate.

RPSC will post and maintain this report on the RPSC web site: (http://www.polar.org/usapserv/usapserv.htm), minus Table 2.

Questions and comments concerning this document should be referred to Dr. Steven T. Kottmeier at 800.688.8606 ext. 32008.

Sincerely,

RAYTHEON TECHNICAL SERVICES COMPANY LLC

Steven T. Kottmeier, Ph.D.
Director, Performance Assurance/
Quality Assurance, Polar Services

REPORT ON FY 2003 USAP RESEARCH SUPPORT FACILITIES SURVEY

INTRODUCTION

This is the report on the FY 2003 U.S. Antarctic Program (USAP) Research Support Facilities Survey (FY 2003 GPRA Survey), a performance survey that provides data for the National Science Foundation (NSF), Office of Polar Programs (OPP), to respond to the NSF FY 2003 Performance Plan (see the NSF web site: http://www.nsf.gov/od/gpra/). The survey covers the USAP facilities (the three research stations at McMurdo, Palmer, and South Pole, two research icebreakers (R/V LAURENCE M. GOULD and R/V NATHANIEL B. PALMER) and their field camps, and one U.S. Coast Guard icebreaker (USCGC POLAR SEA), which support cutting-edge research in Antarctica. Results of the survey are an important indication of productive and unproductive days experienced by 77 science projects in Antarctica during FY 2003. The results are compared to the results from the FY 1999-FY 2002 surveys (see the RPSC web site: http://www.polar.org/usapserv/usapserv.htm). The survey identifies processes that are within the control of USAP facilities, which can be operated better to reduce the unproductive time and increase the productive time of science projects, and hence the throughput of scientific research in Antarctica.

METHODS

The FY 2003 GPRA Survey was developed as a one page, web site-based form by the Raytheon Polar Services Company (RPSC) Director, Performance Assurance/Quality Assurance (PA/QA) and NSF/OPP Safety and Health Officer (Fig. 1). The Science Projects, Principal Investigators (PIs), and Project Planned Days were determined from the United States Antarctic Program 2002-2003 Science Planning Summary and information provided by the RPSC Science Support Division (Table 1). The PIs and Field Team Leaders were informed by an electronic (e-mail) message from the RPSC Director, PA/QA, in October 2002 that the survey was available on the RPSC web site in three formats: Excel, HTML, and text. The survey included an accompanying one page welcome from the RPSC Director, PA/QA (Fig. 2A). It also included a one page letter from the NSF/OPP Safety and Health Officer explaining the GPRA as it applies to the NSF/OPP, with instruction and encouragement to PIs and Field Team Leaders to complete the survey form (Fig. 2B). The survey was designed to be completed easily by PIs and Field Team Leaders using data collected during their projects' deployment to Antarctica. Hardcopies of the survey form and accompanying letter of explanation and instruction were also distributed to PIs and Field Team Leaders during their science project in-briefings and out-briefings in Antarctica. A significant percentage of surveys were completed electronically and sent via e-mail to the RPSC Director, PA/QA. The RPSC Science Support staff collected numerous hardcopy surveys from PIs and Field Team Leaders during science project out-briefings in Antarctica. All science projects were reminded to complete and submit their surveys soon after the completion of their work in FY 2003.

Completed survey forms were date stamped by RPSC and "working photocopies" made for recording analyses of the responses prior to inputting the data into a master Access database. The original completed surveys and working photocopies are files in the Director, PA/QA, office at RPSC Headquarters. Survey responses were entered into a master, Access database (Table 2), which contains the data fields of the survey. This allowed for accurate sorting into custom and summary reports, and graphical presentation of the results. The results that follow represent 77 science project responses to the FY 2003 GPRA Survey received by RPSC through 25 November 2003.

RESULTS AND DISCUSSION

A total of 77 of 148 science projects completed and submitted the survey for a 52% response rate (Table 3). McMurdo Station had a 68% response rate, which contributed 35% of the 52% total response. South Pole Station had a 15% response rate and USCG Icebreaker, had a 100% response rate, which contributed 3% and 1% respectively of the 52% total response.

While the 52% response rate for the FY 2003 GPRA survey was significantly less than the mean 63% response rate reported for the FY 1999-2003 surveys, it was a slight improvement over the lowest response observed in FY 2001 (48%). Science projects at McMurdo Station and R/V, Field Camps contributed 45% of the 52% total response. The science projects at all other facilities contributed the remaining 7% of the 52% total response. The low response rate remains disappointing given that this is the fourth year that the survey was posted on the RPSC web site for completion, which science projects recommended in the FY 1999 survey would improve their response to it.

The 77 responding science projects comprised 391 scientists, with 4604 Total Project Days (Table 4a). This response is significantly lower than the total 148 (100%) projects comprising 660 scientists, with 15,850 Planned Project Days (Table 1).

The 77 responding science projects experienced an average of 60 Total Project Days (55 Productive Days and 5 Unproductive Days). This is significantly less Total Project Days than the mean for FY 1999-2003 surveys (82 Total Project Days from 73 Productive Days and 9 Unproductive Days). When Bad Weather Days (239 days accounting for 66% of Total Unproductive Days) (Tables 4a and 5) are removed, Total Project Days reduced to 4,365 Corrected Total Project Days (Table 4b). On average each science project experienced 57 Corrected Total Project Days (55 Productive Days and 2 Corrected Unproductive Days). This is significantly less Corrected Total Project Days than the mean for FY 1999–2003 surveys (78 Corrected Total Project Days from 73 Productive Days and 5 Unproductive Days).

Bad Weather Days accounted for the largest percentage (66%) of Unproductive Time (Tables 5 and 6). This is significantly higher (at the top of the range) than the mean 51% for the FY 1999-2003 surveys. Bad Weather Days, while never unexpected in Antarctica, are not within USAP facility control and were removed from the more detailed analysis that follows.

Productive Time accounted for 92% and Unproductive Time accounted for 8% of Total Project Time (Fig. 3). This is improved (more Productive Time and less Unproductive Time) over the mean of the FY 1999-2003 surveys (89% Productive Time, 11% Unproductive Time). When Bad Weather Days are removed from the Total Project Time, Productive Time increased to 97% and Corrected Unproductive Time decreased to 3% (Fig. 4). This is the greatest Productive Time and least Unproductive Time since the GPRA Surveys began in FY 1999, and improved (more Productive Time and less Corrected Unproductive Time) over the mean of the FY 1999-2003 surveys (94% Productive Time, 6% Corrected Unproductive Time).

Percent Productive Time did not vary considerably among McMurdo Station, Palmer Station, and the R/V,Field Camps ranging from 95%-99% (Table 7). The most Productive Time was observed at Palmer Station (99%), which accounted for 16% of the Total Productive Days and 3% of the Corrected Total Unproductive Days (Figs. 5-7 and Table 7). The least Productive Time was observed aboard the USCG Icebreaker (38%, due to heavy sea ice cover in McMurdo Sound), which accounted for close to 0% of the Total Productive Days and 4% of the Corrected Total Unproductive Days. These results suggest that most USAP facilities are productive antarctic research environments, but some facilities have areas where improvements in support will reduce unproductive time and enhance research throughput for science projects.

The sum of Bad Weather Days (66%), Other Circumstances (18%), and Delays in Transportation (6%), accounted for 90% of Unproductive Time (Table 5). This is greater than the sum of these causes from the means (83%) of the FY 1999-2003 surveys.

When Bad Weather Days are removed, then Other Circumstances (54%), Delays in Transportation (17%), and Failure of Equipment/Instruments (12%) accounted for 83% of Corrected Total Unproductive Time (Table 5).

Other Circumstances accounted for 54% of the Total Corrected Unproductive Time (Table 5). This result is larger than the mean of 43% for the FY 1999-2003 surveys. Fifteen different Other Circumstances caused

unproductive days, ranging from Software Problems (8 days lost) to seven other causes (1 day lost each) (Fig. 8). Two of the fifteen Other Circumstances resulted in 7-8 days lost; two resulted in 3-4 days lost; four in 2 days lost; and seven in 1 day lost. Most Other Circumstances are within USAP facility control and can be reduced, eliminated, and planned for to reduce the loss of productive time for science projects.

Delays in Transportation accounted for 17% of the Total Corrected Unproductive Time (Table 5). This result is less than the mean of 23% reported in the FY 1999-2003 surveys. Delays in Transportation accounted for the majority of the unproductive time experienced on the USCG Icebreaker.

Air Transportation accounted for 65% of transportation difficulties contributing to unproductive time, while Research Vessel Transportation accounted for 30% and Surface Transportation accounted for 5% (Fig. 9). These results are significantly different from the mean results reported in the FY 1999-2003 surveys, where Air Transportation accounted for a greater proportion (78%), and Research Vessel Transportation (17%) and Surface Transportation (5%) lesser proportions of the transportation difficulties (derived from data in Table 4b).

Effectiveness of Planning (actual vs. planned performance) resulted in a total of 72 days lost; an average of 1 total day lost per project (Tables 4c and 8). These results are a slight improvement over the mean of 2 days lost reported for FY 1999-2003 surveys (Table 8). These results are also significantly different than the Science Project Planned Days (Table 1), where 1262 total days were lost (project reported vs. project planned), for an average of 16 days lost per project. This suggests there may be a significant difference between the NSF and RPSC project planning information and that reported by the projects in the GPRA survey. Alternatively, this portion of the survey was observed to be completed incorrectly by several projects, leading to potential errors in the data, and may be a poor indicator of the effectiveness of the planning process. Therefore, no in-depth analysis of the data obtained on Effectiveness of Planning is provided here.

Rating of Support Provided Your Project resulted in 98% satisfactory plus good and excellent ratings, 1% poor, and 0% unsatisfactory ratings, and 1% Not Answered (Fig. 10 and Table 9). These results are comparable to the mean of 98% reported for the FY 1999-2003 surveys. The results suggest that science projects were quite satisfied with their support in FY 2003.

Design of the Survey Captured Facility Support of Your Project, resulted in evaluations of 72% Yes, 25% No, and 3% Not Answered (Fig. 11 and Table 10). The affirmative results are comparable to the mean of 72% in the FY 1999-2003 surveys. These results suggest that while many of responding scientists were pleased with the design of the survey form, some improvements are needed. Suggestions for improving the design of the survey (Table 11) were reviewed and considered in the revision of the survey form for FY 2004 (Fig. 12).

Many responding scientists provided additional comments related to the support they received. These comments are provided (Table 12) for review by supporting USAP work centers for corrective actions.

TOP TEN RECOMMENDATIONS FOR IMPROVING THE SURVEY IN FY 2004

RPSC recommends the following improvements to the GPRA survey, based on its experience administering the survey in FY 2003:

1. Continue to communicate early and continually with the PIs and Field Team Leaders regarding the intent of the survey.
2. Communicate regularly with the PIs and Field Team Leaders via the RPSC web site, e-mail messages, faxes, and telephone.
3. Reinforce completion of the survey during in-briefs and out-briefs of science projects in Antarctica. Collect as many completed surveys in Antarctica before science projects depart.
4. Continue partnering with RPSC Science Users Committees (ARVOC, MAUC, PAUC, and SPUC) to encourage completion of the survey by the scientific communities they represent.

5. Work closely with the Program Managers in the NSF/OPP Polar Research Support Section and Antarctic Science Section, to encourage response by all science projects.
6. Follow up with scientists that fail to respond within 30 days of the completion of their project in Antarctica.
7. Continue to summarize the results of the completed survey to the responding scientists, RPSC Users Committees, RPSC and other USAP organizations, and the NSF/OPP, on the RPSC web site and at meetings.
8. Revise the survey incorporating feedback from the respondents, the NSF/OPP, and RPSC (esp. Effectiveness of Planning).
9. Make completion of the survey a deliverable requirement of every NSF/OPP funded science project, and communicate that requirement clearly, beginning with guidelines on preparation of proposals.
10. Continue to track and report survey trends year-to-year.

ACKNOWLEDGEMENTS

This survey was supported by the National Science Foundation Contract OPP 0000373 to Raytheon Technical Services Company, Polar Services. Thank you to the 77 PIs and Field Team Leaders that participated in the survey, for without their participation the survey would not have been possible. I thank the NSF/OPP Polar Research Support Section and Antarctic Science Program Managers for encouraging the PIs and Field Team Leaders to complete the survey. I appreciate the collaboration of Dr. Harry Mahar, NSF/OPP Safety and Health Officer, in the design of the survey and discussion of the survey results. My discussions of the survey and its results versus "Planned Days" with Ms. Altie Metcalf, NSF/OPP Budget and Planning Officer, were invaluable. I value the on-going discussions of the results and suggestions for improvement of the survey with the four RPSC Science Users Committees. Ms. Cathline Bridges posted the FY 2003 and FY 2004 survey forms, and the RPSC Web Team posted the final report of the FY 2003 survey, respectively on the RPSC web site. Last, I continue to be indebted to Ms. Celeste Dowell, RPSC Database Auditor, for her tireless entry of survey response data, analyses of survey data from FY 1999- FY 2003, and preparation of the various figures and tables, which made this report possible.

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Event Number _____

FY 2003 USAP RESEARCH SUPPORT FACILITIES SURVEY

INSTRUCTIONS: This survey is designed to collect information regarding research support facilities in the United States Antarctic Program (USAP), for use by NSF/OPP in its annual performance plan report for the Government Performance and Results Act (GPRA). Each project Principal Investigator (PI) or Field Team Leader should **complete and return a separate survey for each facility, regardless of whether your project deployed to Antarctica during FY 2003**. Send your completed survey(s) via e-mail to: GPRA2003@usap.gov. Contact the Raytheon Polar Services Company, Director, Performance Assurance/Quality Assurance (Steve.Kottmeier@usap.gov, 800/688-8606, ext. 32008) with any questions.

(1) PROJECT INFORMATION

A) Event number ……

B) Principal Investigator (PI) ……

C) Field Team Leader (if different from PI) ……

D) List **All** Deploying Members of the Project Field Team (Include PI and Field Team Leader as applicable.)

1 _____ 3 _____ 5 _____ 7 _____

2 _____ 4 _____ 6 _____ 8 _____

E) USAP Research Support Facility supporting your project

☐ McMurdo and Field Camps ☐ Research Vessels (LMG or NBP) and Field Camps Cruise # _____

☐ Palmer ☐ USCGC Icebreaker Cruise # _____

☐ South Pole

F) Survey Period

☐ FY2003-1 (1 Oct 2002 – 31 Mar 2003, 182 total days)

☐ FY2003-2 (1 Apr 2003 – 30 Sept 2003, 183 total days)

☐ FY2003-3 (1 Oct 2002 – 30 Sept 2003, 365 total days)

(2) QUALITY TIME IN ANTARCTICA

Note: (1) Use elapsed calendar days rather than person-days in your responses.

(2) Include the number of days that technicians of the USAP Support Contractor supported your project.

A) Productive Days: Estimate of the number of productive days your project experienced ……

B) Unproductive Days: Estimate of the number of unproductive days your project experienced for each of the following reasons:

Days Lost Due To:

1) Delays in cargo ……

2) Failure of USAP-provided equipment/instruments ……

3) Inadequate laboratory/observatory space ……

4) Problems with USAP-provided material (incorrect/insufficient) ……

5) Unavailability of cryogenic materials ……

6) Unavailability of USAP Support Contractor Science Technician ……

7) Problems with transportation (not related to bad weather delays):

aircraft ☐ research vessel ☐ surface vehicle ☐ Total Transportation

8) Bad weather delays ……

9) Other circumstances (please specify below) ……

10) **Subtotal Unproductive Project Days** (Sum of Lines 2B1-2B9) ……

C) Total Project Days (Line 2A + Line 2B10) ……

(3) EFFECTIVENESS OF PLANNING

Provide estimates of your project's Planned Days *minus* Actual Days for the following activities.

Note: Enter: **(a)** Appropriate plus (+) or minus (-) sign; **(b)** Zero if Planned and Actual are equal; **(c)** NA if not applicable

For example, if you planned 5 days for transit to Antarctica and it required 7 days, then record (-2).

	Planned minus Actual		*Planned minus Actual*
1) Days in transit to Antarctica		6) Down days	
2) Days for field training		7) Days for packing up	
3) Days for field testing/set-up		8) Days in transit from field	
4) Days in transit to field		9) Days in transit from Antarctica	
5) Days for experimentation and data collection		10) **Total Planned minus Actual Days** (Sum of Lines 1-9)	

(4) OVERALL ASSESSMENT

A) Rate the support provided your project.

Unsatisfactory ☐ Poor ☐ Satisfactory ☐ Good ☐ Excellent ☐

B) Considering your responses, does this survey capture the way in which the USAP Research Support Facility (see 1.E.) supported your project?

Yes ☐ No ☐

If No, then please suggest how the survey might be improved to better capture your support (use separate page, as required)

C) Describe any specific support difficulties your project encountered and suggested solutions (use separate page, as required).

Figure 1 FY2003 USAP Research Support Facilities Survey Form

WELCOME TO THE GPRA SURVEY FOR FY 2003

The following three applications comprise the USAP Research Support Facilities Survey (GPRA Survey) for FY 2003. At the present time, only these versions of the GPRA FY 2003 survey are offered, but others will be developed as the web site (www.polar.org) allows.

The first application is the GPRA Survey form in Microsoft Excel spreadsheet format. If you are a Microsoft Excel user, then download this application and use the tab and cursor arrow keys to move around the survey to complete it. Once your survey is completed electronically, then please send it as an e-mail message attachment to the e-mail address: GPRA2003@usap.gov.

The second application is the GPRA Survey form in HTML format. You will need to print out a hard copy from the HTML format to complete the survey.

The third application is the GPRA Survey form in PDF format. You will need to print out a hard copy from the PDF format to complete the survey.

If you complete a hard copy of the survey, then please fax or mail it to:

Director
Performance Assurance/Quality Assurance
7400 S. Tucson Way
Centennial, CO 80112-3938
Fax: 303/790-9130

Thank you in advance for your participation in the GPRA Survey for FY 2003. Please request any further information required by contacting me:

Steve Kottmeier, Ph.D.
Raytheon Polar Services Company
Director
Performance Assurance/Quality Assurance
E-mail: Steve.Kottmeier@usap.gov
Phone: 800/688-8606, ext. 32008
Fax: 303/790-9130

Figure 2a Welcome to the FY 2003 USAP Research Support Facilities Survey

10 October 2002

Dear Principal Investigator or Field Team Leader,

Subject: **NSF and the Government Performance and Results Act for FY 2003**

As part of NSF's response to the Government Performance and Results Act (GPRA), NSF has prepared a Performance Plan for FY 2003 (February 4, 2002, see http://www.nsf.gov/od/gpra/). *link opens in new window

Two important performance areas for FY 2003 are:

1) Construction and Upgrade of Facilities

2) Operations and Management of Facilities

Once facilities are constructed or upgraded, then operations and management of facilities are directly related to the successful accomplishment of scientific research. The NSF has developed the following FY 2003 performance goal for the operations and management of facilities:

> **FY 2003 Performance Goal IV-11: For 90 percent of facilities, keep operating time lost due to unscheduled downtime to less than 10 percent of the total scheduled operating time.**

The support of facilities is a significant portion of the NSF's budget. The entire Office of Polar Program's, Polar Research Support Section (OPP/PRSS) budget is counted as supporting USAP facilities. The total NSF FY 2003 Budget Estimate for Research Facilities is $1.122 billion, of which the PRSS request is $198.43 million. PRSS has separated its program into four primary facilities:

McMurdo - including nearly all the large and small field camps
Palmer
South Pole, and
Research Vessels - including small field camps deployed/recovered by research vessels

In regards to operations and management of facilities, performance is measured as the average percentage among all facilities of full capacity "user units" lost during the year to breakdowns or other circumstances considered within the control of the facilities. The average across facilities is used in this instance because, although there should be latitude for some facilities to be run at greater failure rates with good reason, those facilities should be balanced by other operating more reliably. User units are defined separately for each facility, and are typically user-hours or something similar.

OPP has determined that a workable definition of **a user unit for the USAP is a project observing day, or project-days.** For a South Pole observatory, this might be 365 days per year after the instrument is installed, or just when it is dark, approximately 180 days. For a cruise, we would expect that the cruise length is synonymous with the number of project days, even though we recognize that the vessel usually needs time to reach its work area.

OPP and Raytheon Polar Services Company (RPSC) have developed the attached FY 2003 GPRA Survey Form to collect data used to report USAP science project observing days, for incorporation into the annual NSF GPRA Report. In addition, the GPRA survey data are used by OPP, RPSC, and other USAP support organizations to improve overall coordination and management of USAP science support, which should increase the number of science project observing days. Since the GPRA survey data has multiple uses, it is important that every science project participate in the survey in order to obtain a significant set of data.

OPP intends that the data requested in the following GPRA survey form are easy for you to collect and also accurately reflect your experience in Antarctica. OPP encourages you to complete the survey during your field season in Antarctica or as soon after its completion as possible. We have established the website for such reporting: http://www.polar.org/usapserv/gpra2003 and encourage you to file report electronically. OPP will post results from this survey, so you have indication of the performance of the overall program.

Thank you for your participation.

Harry Mahar, Ph.D.
NSF/OPP Science GPRA Coordinator

Figure 2b Cover Letter to FY 2003 USAP Research Support Facilities Survey

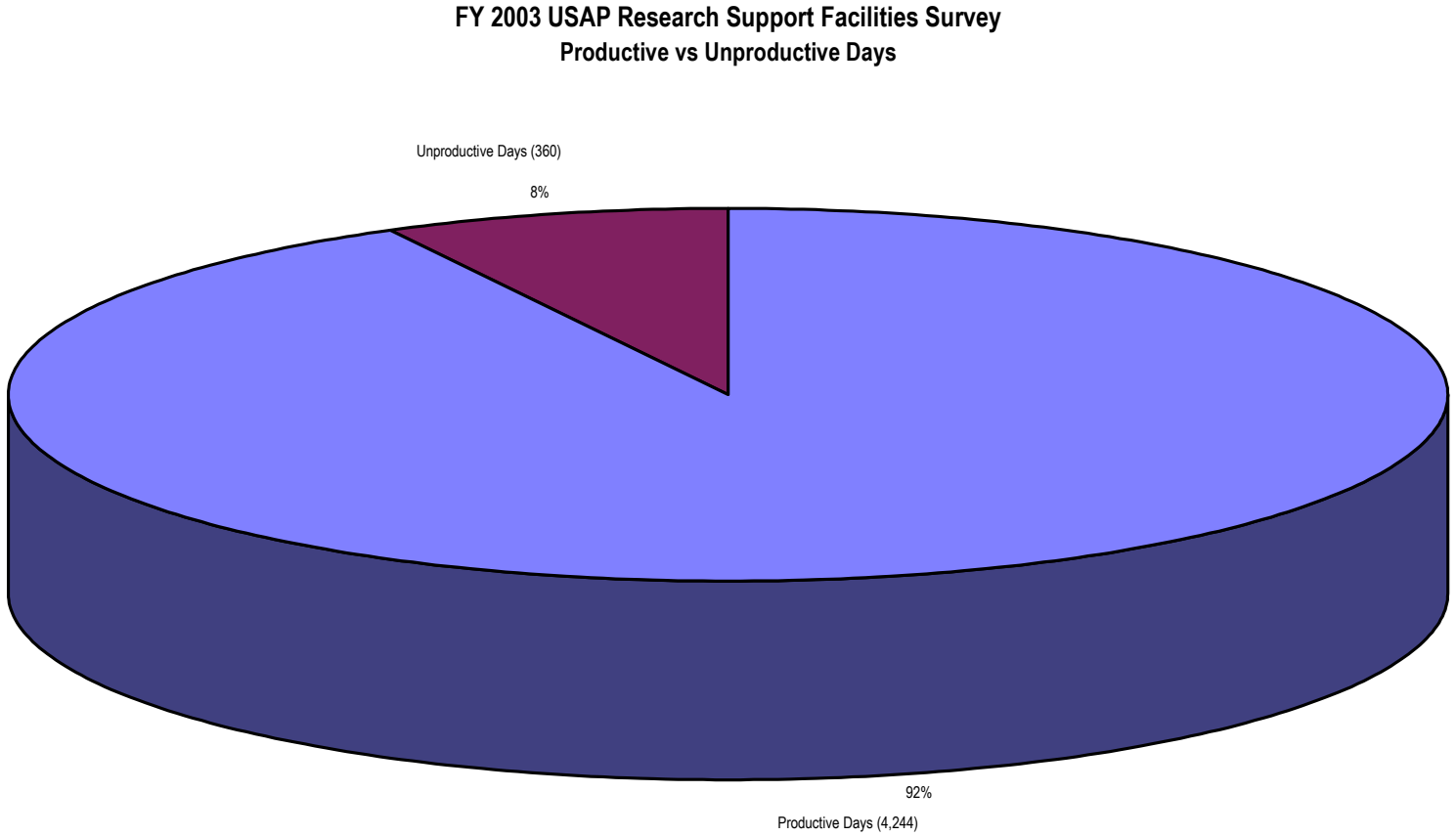


Figure 3: Productive Days vs Unproductive Days

FY 2003 USAP Research Support Facilities Survey

Productive vs Unproductive Days

(minus Bad Weather Days)

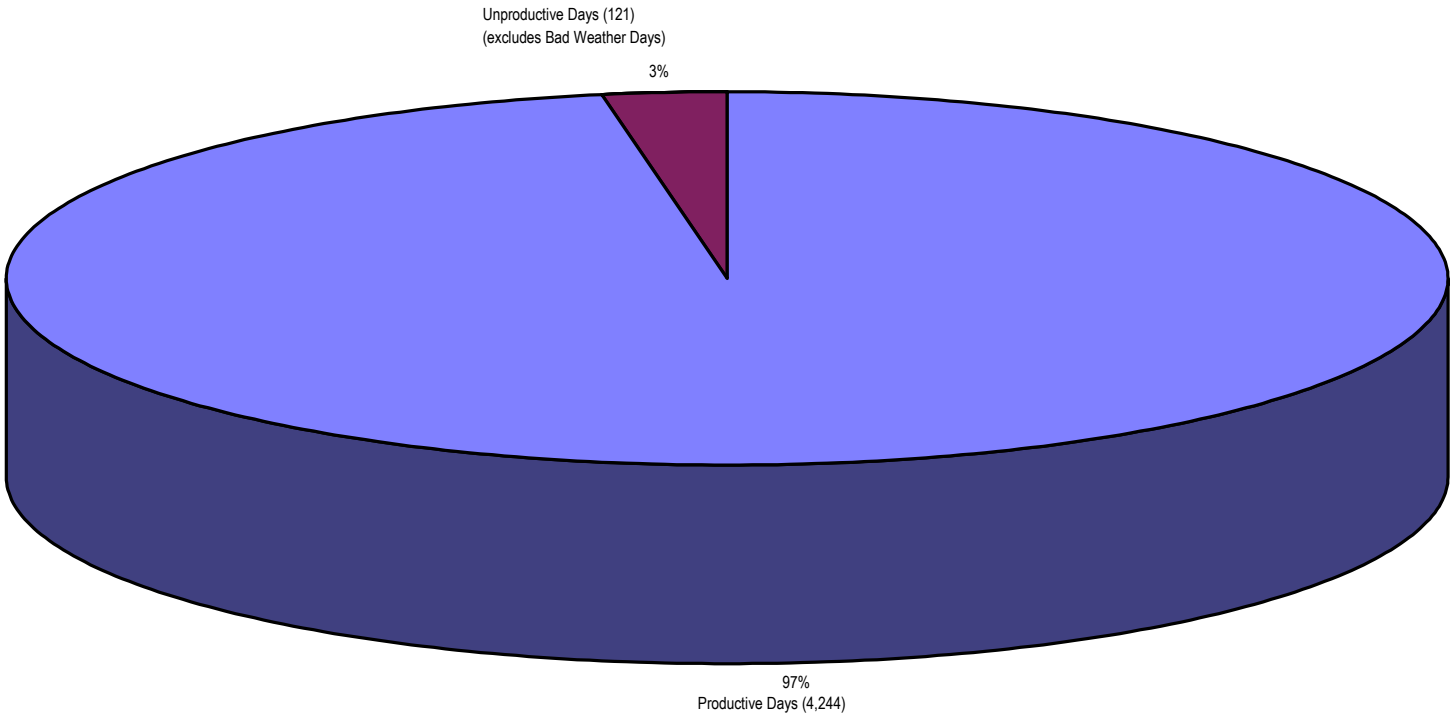


Figure 4: Productive Days vs Unproductive Days (minus Bad Weather Days)

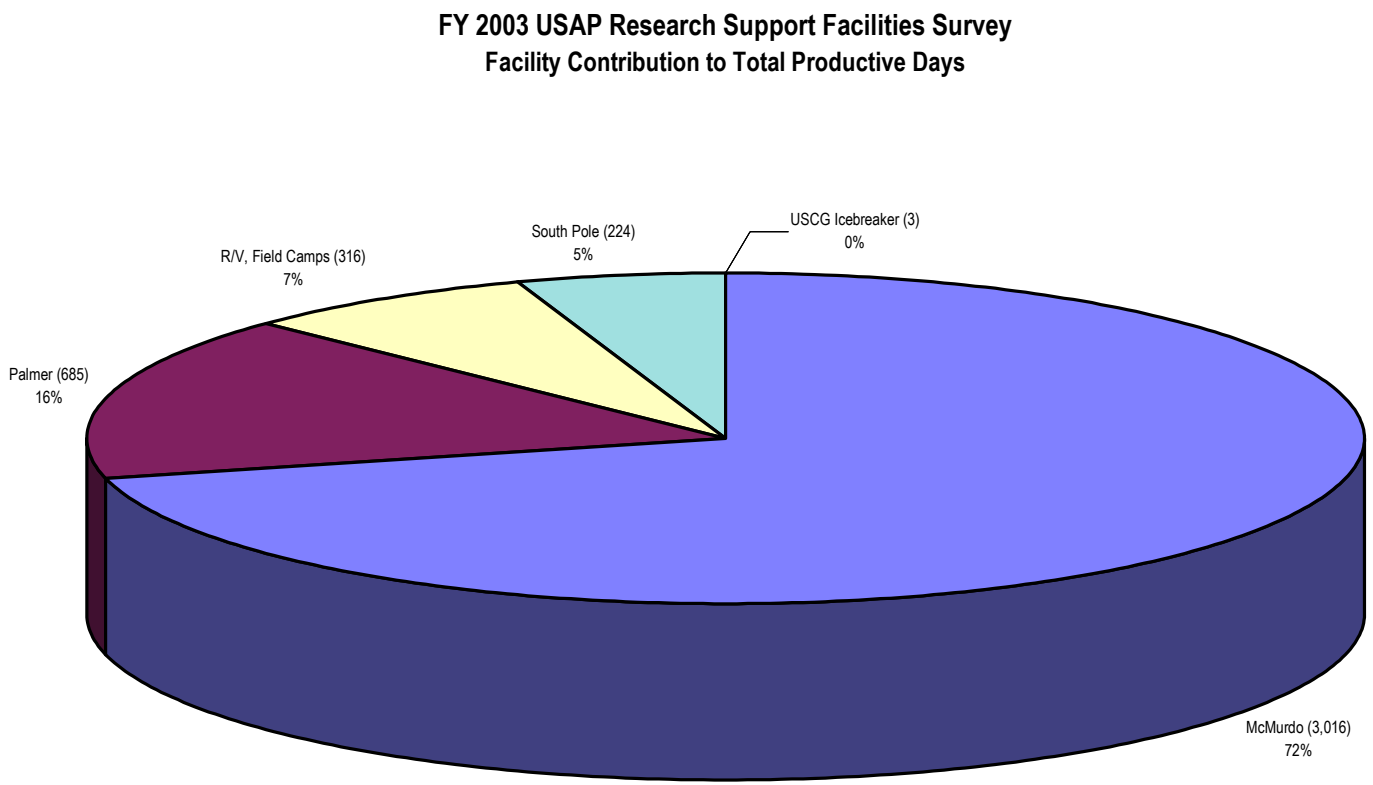


Figure 5: Facility Contribution to Total Productive Days

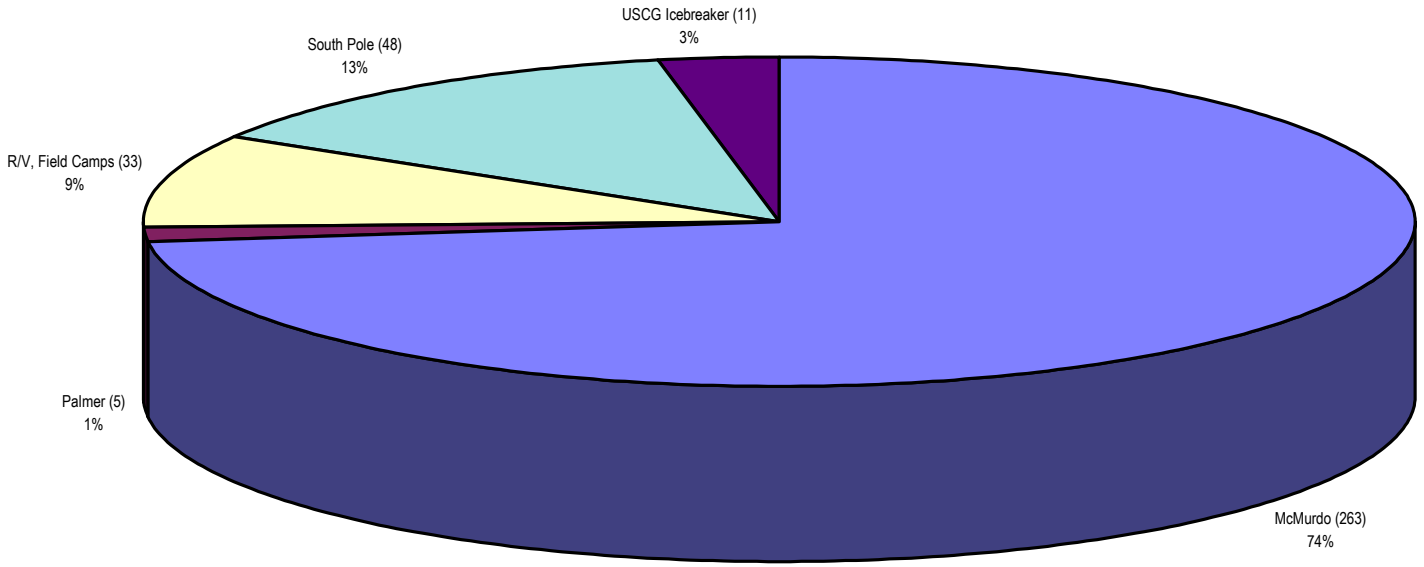
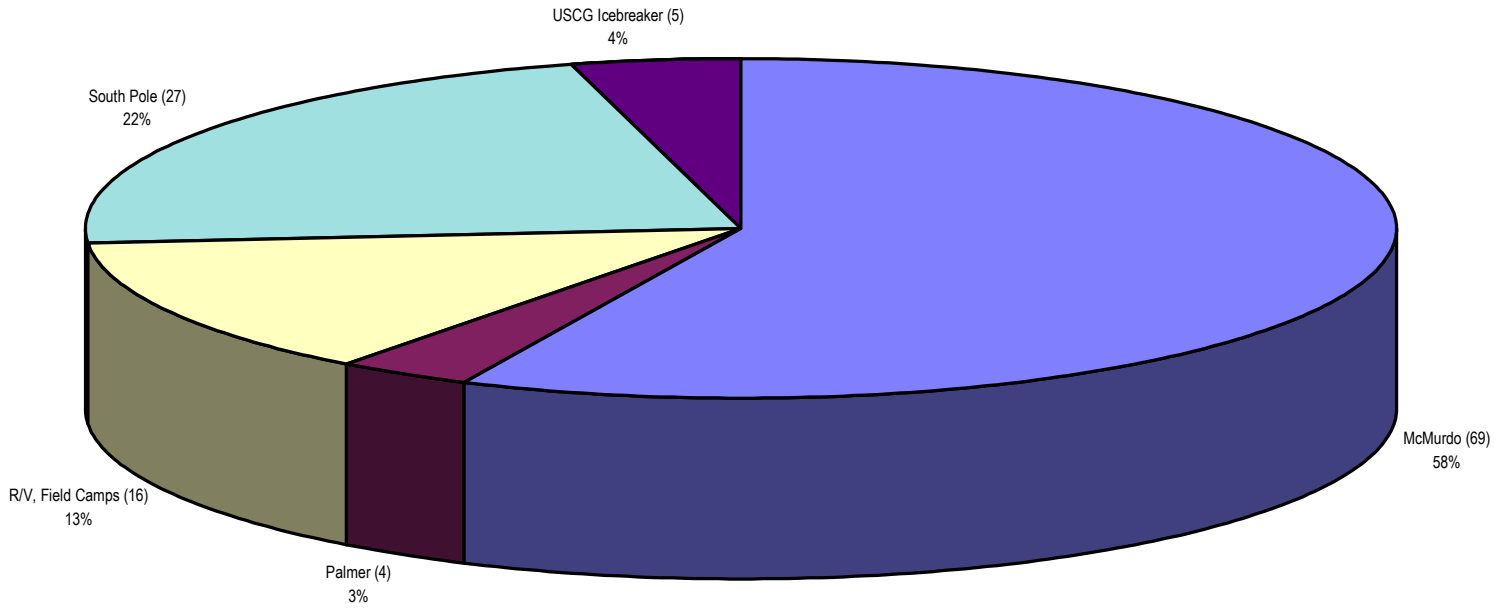


Figure 6: Facility Contribution to Total Unproductive Days



Figture 7: Facility Contribution to Total Unproductive Days (minus Bad Weather Days)

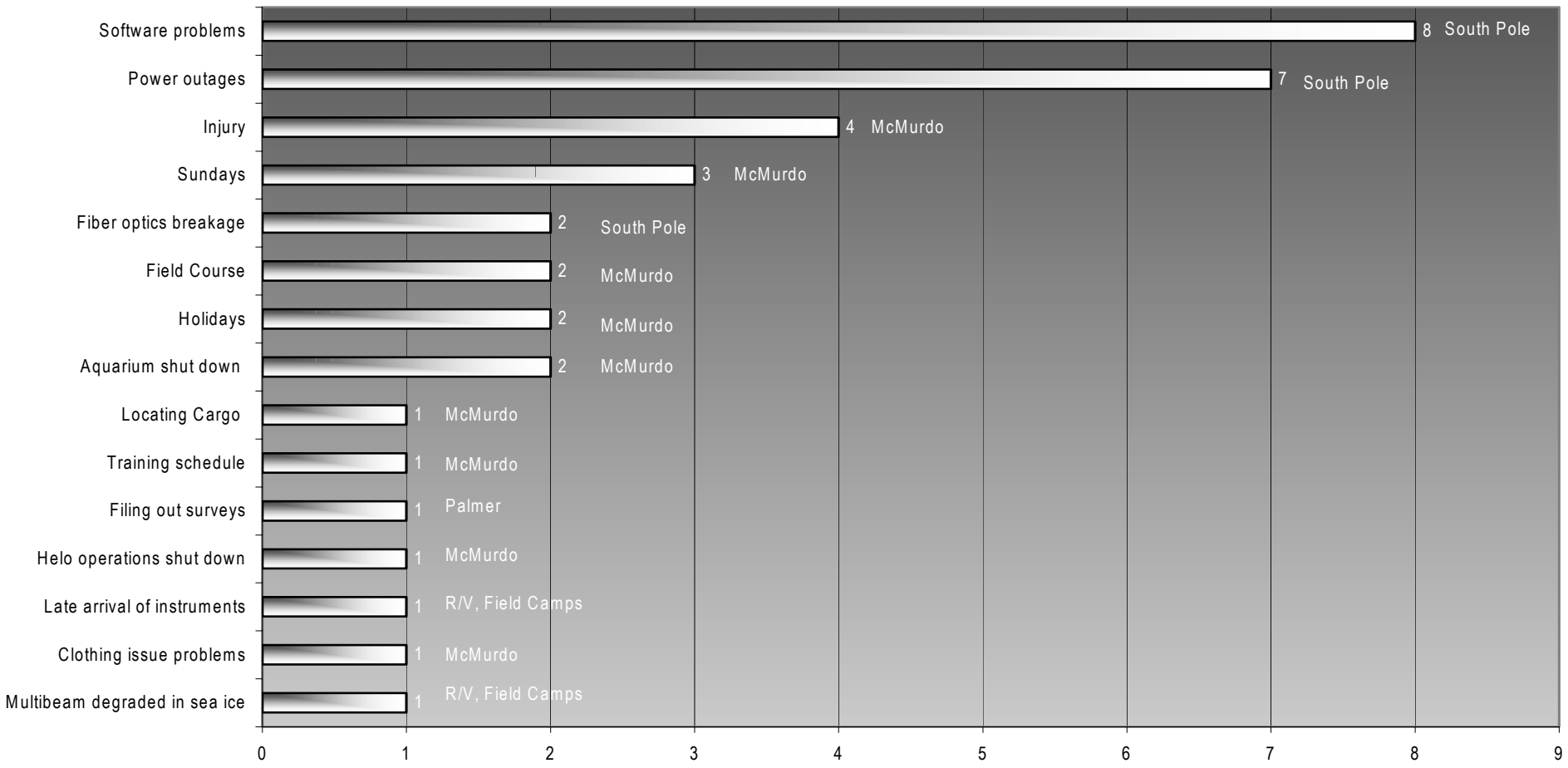


Figure 8: Other Causes of Unproductive Days - All Facilities

FY 2003 USAP Research Support Facilities Survey
Unproductive Days Caused by Transportation Difficulties

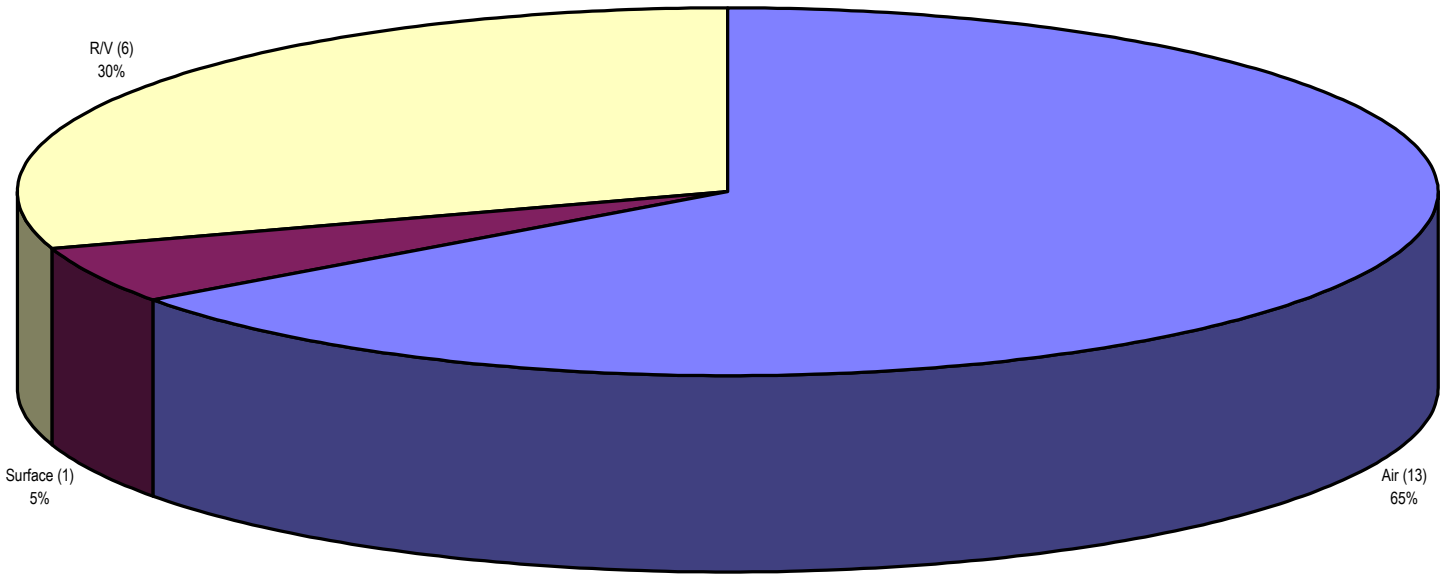


Figure 9: Unproductive Days Caused by Transportation Difficulties

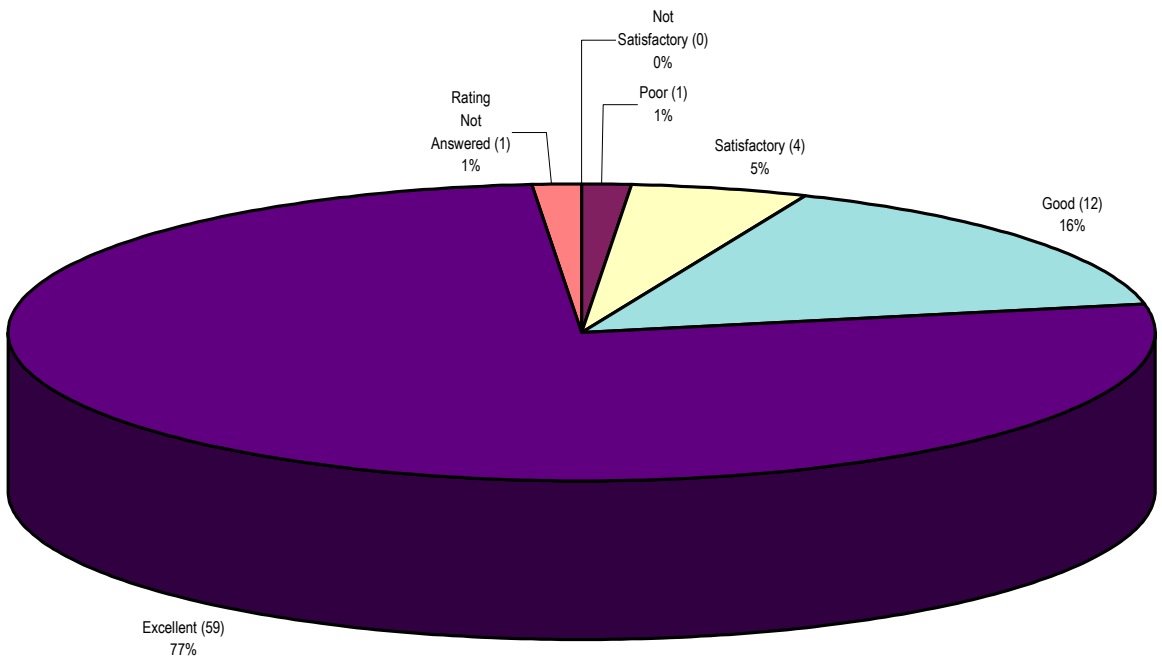


Figure 10: Rating of Support Provided Your Project

FY 2003 USAP Research Support Facilities Survey
Survey Design Captured Facility Support of Your Project

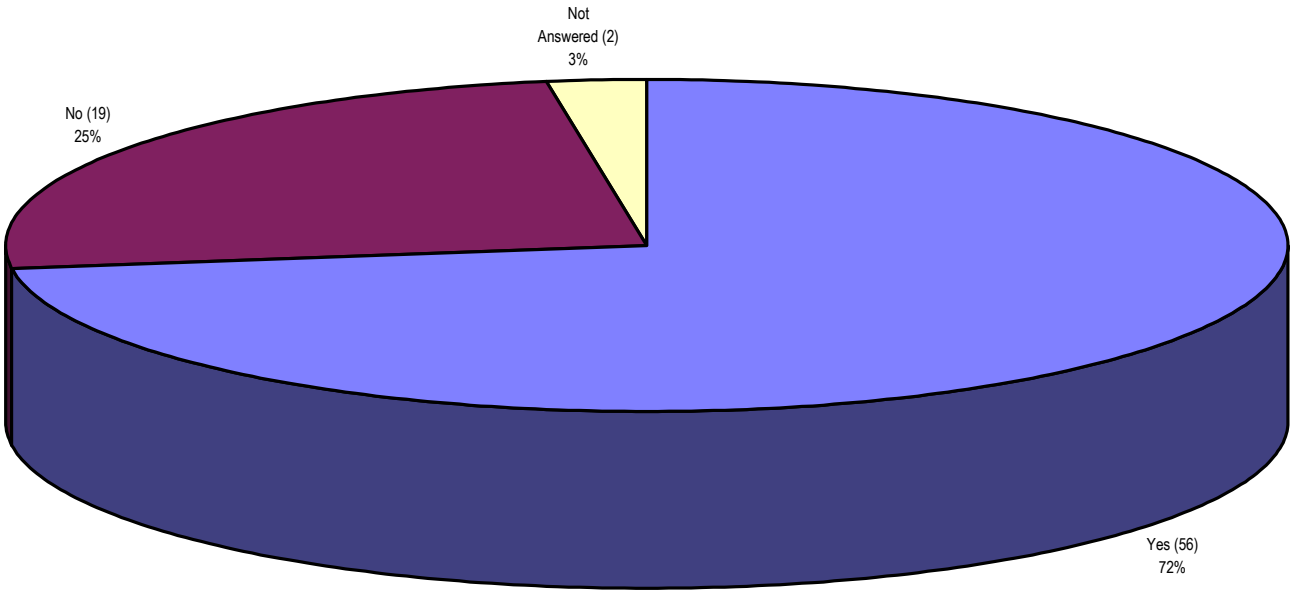


Figure 11: Survey Design Captured Facility Support of Your Project

Event Number _____

FY 2004 USAP RESEARCH SUPPORT FACILITIES SURVEY

INSTRUCTIONS: This survey is designed to collect information regarding research support facilities in the United States Antarctic Program (USAP), for use by NSF/OPP in its annual performance plan report for the Government Performance and Results Act (GPRA). Each project Principal Investigator (PI) or Field Team Leader should **complete and return a separate survey for each facility, regardless of whether your project deployed to Antarctica during FY 2004**. Send your completed survey(s) via e-mail to: GPRA2004@usap.org. Contact the Raytheon Polar Services Company, Director, Performance Assurance/Quality Assurance (Steve.Kottmeier@usap.org, 800/688-8606, ext. 32008) with any questions.

(1) PROJECT INFORMATION

A) Event number _____ Cruise # _____

B) Principal Investigator (PI) ..... _____

C) Field Team Leader (if different from PI) ..... _____

D) List **All** Deploying Members of the Project Field Team (Include PI and Field Team Leader as applicable.)

1 _____ 3 _____ 5 _____ 7 _____

2 _____ 4 _____ 6 _____ 8 _____

E) USAP Research Support Facility supporting your project

☐ McMurdo and Field Camps ☐ Research Vessels (LMG or NBP) and Field Camps

☐ Palmer ☐ USCGC Icebreaker

☐ South Pole

F) Survey Period ☐ FY2004-1 (1 Oct 2003 – 31 Mar 2004, 183 total days)

☐ FY2004-2 (1 Apr 2004 – 30 Sept 2004, 183 total days)

☐ FY2004-3 (1 Oct 2003 – 30 Sept 2004, 363 total days)

(2) QUALITY TIME IN ANTARCTICA

Note: (1) Use elapsed calendar days rather than person-days in your responses.

(2) Include the number of days that technicians of the USAP Support Contractor supported your project.

A) Productive Days: Estimate of the number of productive days your project experienced ..... A) _____

B) Unproductive Days: Estimate of the number of unproductive days your project experienced for each of the following reasons:

Days Lost Due To:	B)
1) Delays in cargo	1) _____
2) Failure of USAP-provided equipment/instruments	2) _____
3) Inadequate laboratory/observatory space	3) _____
4) Problems with USAP-provided material (incorrect/insufficient)	4) _____
5) Unavailability of cryogenic materials	5) _____
6) Unavailability of USAP Support Contractor Research Associate	6) _____
7) Problems with transportation (not related to bad weather delays): aircraft ☐ research vessel ☐ surface vehicle ☐ Total Transportation	7) _____
8) Bad weather delays	8) _____
9) Other circumstances (please specify below)	9) _____
10) **Subtotal Unproductive Project Days** ..... (Sum Lines 2.B.1 through 2.B.9)	10) _____

C) Total Project Days ..... (Sum Line 2.A + Line 2.B.10) C) _____

(3) EFFECTIVENESS OF PLANNING

Provide estimates of your project's Planned Days *and* Actual Days for the following activities.

Planned	*Actual*		*Planned*	*Actual*	
1) _____	_____	1) Days in transit to Antarctica	6) _____	_____	6) Down days
2) _____	_____	2) Days for field training	7) _____	_____	7) Days for packing up
3) _____	_____	3) Days for field testing/set-up	8) _____	_____	8) Days in transit from field
4) _____	_____	4) Days in transit to field	9) _____	_____	9) Days in transit from Antarctica
5) _____	_____	5) Days for experimentation and data collection	10) _____	_____	**10) Totals** (Sum of Lines 1-9)

(4) OVERALL ASSESSMENT

A) Rate the support provided your project.

Unsatisfactory ☐ Poor ☐ Satisfactory ☐ Good ☐ Excellent ☐

B) Considering your responses, does this survey capture the way in which the USAP Research Support Facility (see 1.E.) supported your project?

Yes ☐ No ☐

If No, then please suggest how the survey might be improved to better capture your support (use separate page, as required)

C) Describe any specific support difficulties your project encountered and suggested solutions (use separate page, as required).

Figure 12: FY2004 USAP Research Support Facilities Survey Form

Table 1: Science Project Planned Days for FY 2003

		Personnel Deployments	Project Planned	Project Reported Total Days	Percent Total Days/ Planned Days
Project	1	4	365	10	2.74%
Project	2	14	82	0	0.00%
Project	3	14	103	0	0.00%
Project	4	17	89	0	0.00%
Project	5	1	11	13	118.18%
Project	6	0	365	0	0.00%
Project	7	0	365	0	0.00%
Project	8	0	365	0	0.00%
Project	9	0	365	0	0.00%
Project	10	0	365	0	0.00%
Project	11	0	365	0	0.00%
Project	12	1	15	46	306.67%
Project	13	4	80	0	0.00%
Project	14	3	78	0	0.00%
Project	15	5	18	0	0.00%
Project	16	3	11	0	0.00%
Project	17	0	365	0	0.00%
Project	18	0	365	0	0.00%
Project	19	2	42	50	119.05%
Project	20	5	63	25	39.68%
Project	21	2	10	4	40.00%
Project	22	0	22	179	813.64%
Project	23	2	12	0	0.00%
Project	24	2	9	0	0.00%
Project	25	3	14	0	0.00%
Project	26	0	32	0	0.00%
Project	27	0	14	12	85.71%
Project	28	2	15	0	0.00%
Project	29	0	365	0	0.00%
Project	30	2	15	0	0.00%
Project	31	17	365	0	0.00%
Project	32	10	110	0	0.00%
Project	33	4	61	0	0.00%
Project	34	1	107	0	0.00%
Project	35	8	100	175	175.00%
Project	36	7	62	0	0.00%
Project	37	3	96	70	72.92%
Project	38	5	113	98	86.73%
Project	39	6	92	53	57.61%
Project	40	4	92	73	79.35%
Project	41	3	39	39	100.00%
Project	42	5	39	39	100.00%
Project	43	3	51	60	117.65%

Table 1: Science Project Planned Days for FY 2003

	Personnel Deployments	Project Planned	Project Reported Total Days	Percent Total Days/ Planned Days
Project 44	8	138	0	0.00%
Project 45	7	133	130	97.74%
Project 46	8	134	60	44.78%
Project 47	6	38	37	97.37%
Project 48	8	77	65	84.42%
Project 49	2	77	70	90.91%
Project 50	5	72	71	98.61%
Project 51	8	157	147	93.63%
Project 52	5	64	60	93.75%
Project 53	8	107	87	81.31%
Project 54	4	62	54	87.10%
Project 55	7	62	55	88.71%
Project 56	3	11	0	0.00%
Project 57	6	38	0	0.00%
Project 58	5	133	56	42.11%
Project 59	8	60	3	5.00%
Project 60	5	79	65	82.28%
Project 61	3	77	64	83.12%
Project 62	2	26	12	46.15%
Project 63	2	144	0	0.00%
Project 64	7	71	62	87.32%
Project 65	7	27	25	92.59%
Project 66	3	15	0	0.00%
Project 67	1	16	0	0.00%
Project 68	3	40	0	0.00%
Project 69	4	171	0	0.00%
Project 70	8	40	0	0.00%
Project 71	7	171	0	0.00%
Project 72	0	40	0	0.00%
Project 73	7	40	38	95.00%
Project 74	4	121	0	0.00%
Project 75	0	40	0	0.00%
Project 76	2	54	0	0.00%
Project 77	5	40	0	0.00%
Project 78	2	125	0	0.00%
Project 79	4		22	
Project 80	0		10	
Project 81	7		3	
Project 82	8	93	0	0.00%
Project 83	2	65	31	47.69%
Project 84	2	30	0	0.00%
Project 85	3	27	30	111.11%
Project 86	8	88	40	45.45%

Table 1: Science Project Planned Days for FY 2003

		Personnel Deployments	Project Planned	Project Reported Total Days	Percent Total Days/ Planned Days
Project	87	6	44	18	40.91%
Project	88	12	92	47	51.09%
Project	89	6	51	40	78.43%
Project	90	2	23	7	30.43%
Project	91	20	26	0	0.00%
Project	92	10	23	21	91.30%
Project	93	2	77	40	51.95%
Project	94	4	54	43	79.63%
Project	95	2	34	21	61.76%
Project	96	8	40	30	75.00%
Project	97	3	47	12	25.53%
Project	98	4	52	27	51.92%
Project	99	10	47	44	93.62%
Project	100	0	365	0	0.00%
Project	101	4	81	0	0.00%
Project	102	12	19	8	42.11%
Project	103	0	27	18	66.67%
Project	104	10	25	0	0.00%
Project	105	4	33	28	84.85%
Project	106	3	43	31	72.09%
Project	107	2	123	110	89.43%
Project	108	7	96	0	0.00%
Project	109	5	33	10	30.30%
Project	110	1	34	25	73.53%
Project	111	6	48	41	85.42%
Project	112	12	93	80	86.02%
Project	113	5	92	54	58.70%
Project	114	12	80	41	51.25%
Project	115	1	14	0	0.00%
Project	116	19		46	
Project	117	7	24	22	91.67%
Project	118	2	40	42	105.00%
Project	119	1	21	182	866.67%
Project	120	3	43	0	0.00%
Project	121	0	365	0	0.00%
Project	122	5		3	
Project	123	19	44	44	100.00%
Project	124	3	14	14	100.00%
Project	125	9	104	0	0.00%
Project	126	0	365	0	0.00%
Project	127	0	365	0	0.00%
Project	128	2	82	21	25.61%
Project	129	2	29	19	65.52%

Table 1: Science Project Planned Days for FY 2003

	Personnel Deployments	Project Planned	Project Reported Total Days	Percent Total Days/ Planned Days
Project 130	0	365	0	0.00%
Project 131	1	365	0	0.00%
Project 132	2	365	0	0.00%
Project 133	3	12	0	0.00%
Project 134	9	108	68	62.96%
Project 135	9	62	0	0.00%
Project 136	0	365	0	0.00%
Project 137	0	365	0	0.00%
Project 138	5	46	0	0.00%
Project 139	1	365	359	98.36%
Project 140	1	365	365	100.00%
Project 141	1	365	20	5.48%
Project 142	9	365	0	0.00%
Project 143	1	48	0	0.00%
Project 144	2	30	0	0.00%
Project 145	1	110	0	0.00%
Project 146	2	34	0	0.00%
Project 147	1	44	0	0.00%
Project 148	1	44	0	0.00%
Planned TOTALS	**660**	**15,850**		
Responses TOTALS		**5,506**	**4,244**	**77.08%**

Table 2: Master Report of Survey Response

Table 2 is a report of all collected data sorted by Event Number (WO events are listed first).

The report is derived from a Microsoft Access database of survey responses.

One complete copy is available for review at the National Science Foundation from Dr. Harry Mahar.

Table 3 Science Project Survey Response Rate by Facility

Fiscal Years 1999 through 2003

Facility	Fiscal Year	Total Projects	Responses	% Responses per Facility	% Responses per Total
McMurdo	FY 2003	77	52	68%	35%
Mean	FY 1999-2003	79	58	74%	32%
Range	FY 1999-2003	71-87	39-73	55-94%	20-42%
Multiple Stations	FY 2003	n/a	n/a	n/a	n/a
Mean	FY 1999-2003	5	3	61%	2%
Range	FY 1999-2003	3-6	0-5	0-100%	0-3%
Other	FY 2003	n/a	n/a	n/a	n/a
Mean	FY 1999-2003	3	1	23%	0%
Range	FY 1999-2003	1-5	0-2	0-50%	0-1%
Palmer	FY 2003	16	5	31%	3%
Mean	FY 1999-2003	15	7	44%	4%
Range	FY 1999-2003	12-19	2-12	17-79%	1-7%
R/V, Field Camps	FY 2003	27	15	56%	10%
Mean	FY 1999-2003	50	30	64%	16%
Range	FY 1999-2003	27-73	15-40	37-89%	10-23%
South Pole	FY 2003	27	4	15%	3%
Mean	FY 1999-2003	30	15	48%	8%
Range	FY 1999-2003	27-34	4-20	15-71%	3-11%
USCG Icebreaker	FY 2003	1	1	100%	1%
Mean	FY 1999-2003	4	3	63%	1%
Range	FY 1999-2003	0-9	0-6	0-100%	0-3%
TOTALS	FY2003	148	77	52%	52%
Mean	FY 1999-2003	184	116	63%	63%
Range	FY 1999-2003	148-214	77-150	48-86%	48-86%

Table 4a Science Project Quality Time in Antarctica by Facility

Fiscal Years 1999 through 2003

Facility	Fiscal Year	Responses	# Team Members	Project Days	Productive Days	Unproduct. Days	Causes of Unproductive Days											
							Delays In Cargo	Failure Equipment/ Instruments	Inadequate Lab/ Observ Space	Incorrect/ Insufficeint Material	Cryogenics Unavail	Science Tech Unavail	Air	Surface	R/V	Trans-portation Total	Bad Weather	Other Circum-stances
McMurdo	FY 2003	52	240	3279	3016	263	7	10	0	10	0	1	13	1	0	14	194	27
Mean	FY 1999-2003	58	284	4201	3771	429	19	20	4	7	0	0	73	3	0	76	255	48
Range	FY 1999-2003	39-73	169-396	3099-6204	2784-5537	263-667	7-45	4-60	0-11	0-18	0-0	0-1	13-166	1-11	0-0	14-167	194-366	27-85
Multiple Stations	FY 2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Mean	FY 1999-2003	3	8	214	134	80	0	1	0	0	0	0	24	0	1	25	31	24
Range	FY 1999-2003	0-5	0-13	0-463	0-206	0-292	0-0	0-2	0-0	0-0	0-0	0-0	0-91	0-0	0-2	0-91	0-105	0-96
Other	FY 2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Mean	FY 1999-2003	1	2	41	35	7	0	0	0	0	0	0	3	0	0	3	4	0
Range	FY 1999-2003	0-2	0-5	0-132	0-120	0-14	0-0	0-0	0-0	0-0	0-0	0-0	0-8	0-0	0-0	0-8	0-10	0-0
Palmer	FY 2003	5	23	690	685	5	0	1	0	2	0	0	0	0	0	0	1	1
Mean	FY 1999-2003	7	22	1028	951	77	3	13	0	3	0	3	0	0	4	4	43	8
Range	FY 1999-2003	2-12	7-43	542-2043	497-1838	5-205	0-13	0-49	0-2	0-9	0-0	0-15	0-0	0-0	0-8	0-8	1-114	1-15
R/V, Field Camps	FY 2003	15	104	349	316	33	0	3	0	0	0	2	0	0	1	1	17	10
Mean	FY 1999-2003	30	193	1496	1008	144	5	13	1	2	0	1	0	2	16	18	55	47
Range	FY 1999-2003	15-40	85-438	349-3637	316-1716	33-200	0-14	0-46	0-4	0-5	0-1	0-3	0-1	0-9	1-27	1-27	17-79	3-90
South Pole	FY 2003	4	16	272	224	48	0	0	0	0	0	0	0	0	0	0	21	27
Mean	FY 1999-2003	15	78	2832	2558	274	9	60	8	26	14	0	7	1	0	8	73	76
Range	FY 1999-2003	4-20	16-126	272-5174	224-4500	48-674	0-17	0-247	0-24	0-83	0-50	0-1	0-12	0-2	0-0	0-13	21-155	20-173
USCG Icebreaker	FY 2003	1	8	14	3	11	0	0	0	0	0	0	0	0	5	5	6	0
Mean	FY 1999-2003	3	11	111	102	9	1	0	0	0	0	0	0	0	1	1	6	1
Range	FY 1999-2003	0-6	0-25	0-383	0-354	0-29	0-4	0-1	0-0	0-0	0-0	0-0	0-1	0-0	0-5	0-5	0-22	0-5
TOTALS	FY2003	77	391	4604	4244	360	7	14	0	12	0	3	13	1	6	20	239	65
Mean	FY 1999-2003	116	554	9528	8525	1003	36	106	13	39	14	4	101	6	22	129	461	200
Range	FY 1999-2003	77-150	391-705	4604-15602	4244-13816	360-1786	7-88	12-405	0-28	5-97	0-51	0-19	13-218	1-13	6-35	20-254	239-708	65-332

Table 4b Science Project Quality Time minus Bad Weather Days

Fiscal Years 1999 through 2003

Facility	Fiscal Year	Responses	# Team Members	Corrected Total Project Days *	Productive Days	Corrected Unproduct. Days *	Causes of Unproductive Days											
							Delays In Cargo	Failure Equipment/ Instruments	Inadequate Lab/ Observ Space	Incorrect/ Insufficeint Material	Cryogenics Unavail	Science Tech Unavail	Air	Surface	R/V	Trans-portation Total	Bad Weather	Other Circum-stances
McMurdo	FY 2003	52	240	3085	3016	69	7	10	0	10	0	1	13	1	0	14	194	27
Mean	FY 1999-2003	58	284	3945	3771	174	19	20	4	7	0	0	73	3	0	76	255	48
Range	FY 1999-2003	39-73	169-396	2891-5914	2784-5537	69-377	7-45	4-60	0-11	0-18	0-0	0-1	13-166	1-11	0-0	14-167	194-366	27-85
Multiple Stations	FY 2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Mean	FY 1999-2003	3	8	183	134	49	0	1	0	0	0	0	24	0	1	25	31	24
Range	FY 1999-2003	0-5	0-13	0-358	0-206	0-187	0-0	0-2	0-0	0-0	0-0	0-0	0-91	0-0	0-2	0-91	0-105	0-96
Other	FY 2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Mean	FY 1999-2003	1	2	37	35	3	0	0	0	0	0	0	3	0	0	3	4	0
Range	FY 1999-2003	0-2	0-5	0-122	0-120	0-8	0-0	0-0	0-0	0-0	0-0	0-0	0-8	0-0	0-0	0-8	0-10	0-0
Palmer	FY 2003	5	23	689	685	4	0	1	0	2	0	0	0	0	0	0	1	1
Mean	FY 1999-2003	7	22	985	951	34	3	13	0	3	0	3	0	0	4	4	43	8
Range	FY 1999-2003	2-12	7-43	530-1929	497-1838	4-91	0-13	0-49	0-2	0-9	0-0	0-15	0-0	0-0	0-8	0-8	1-114	1-15
R/V, Field Camps	FY 2003	15	104	332	316	16	0	3	0	0	0	2	0	0	1	1	17	10
Mean	FY 1999-2003	30	193	1440	1008	88	5	13	1	2	0	1	0	2	16	18	55	47
Range	FY 1999-2003	15-40	85-438	332-3574	316-1716	16-137	0-14	0-46	0-4	0-5	0-1	0-3	0-1	0-9	1-27	1-27	17-79	3-90
South Pole	FY 2003	4	16	251	224	27	0	0	0	0	0	0	0	0	0	0	21	27
Mean	FY 1999-2003	15	78	2759	2558	201	9	60	8	26	14	0	7	1	0	8	73	76
Range	FY 1999-2003	4-20	16-126	251-5019	224-4500	27-519	0-17	0-247	0-24	0-83	0-50	0-1	0-12	0-2	0-0	0-13	21-155	20-173
USCG Icebreaker	FY 2003	1	8	8	3	5	0	0	0	0	0	0	0	0	5	5	6	0
Mean	FY 1999-2003	3	11	105	102	3	1	0	0	0	0	0	0	0	1	1	6	1
Range	FY 1999-2003	0-6	0-25	0-361	0-354	0-7	0-4	0-1	0-0	0-0	0-0	0-0	0-1	0-0	0-5	0-5	0-22	0-5
TOTALS	FY2003	77	391	4365	4244	121	7	14	0	12	0	3	13	1	6	20	239	65
Mean	FY 1999-2003	116	554	9067	8525	542	36	106	13	39	14	4	101	6	22	129	461	200
Range	FY 1999-2003	77-150	391-705	4365-14957	4244-13816	121-1141	7-88	12-405	0-28	5-97	0-51	0-19	13-218	1-13	6-35	20-254	239-708	65-332

* Corrected = Bad Weather Days are not included

Table 4c Science Project Effectiveness of Planning and Overall Assessment

Fiscal Years 1999 through 2003

Facility	Fiscal Year	Effectiveness of Planning: Actual versus Planned Performance (-) sign to designate days lost (no) sign to designate days gained										Overall Assessment: Rating of Support Provided for Project Season						Overall Assessment: Survey Captured Assessment of Project Support		
		Transit to Ice	Transit to Field	Field Train-ing	Field Test-ing Set-up	Experi-ment Data Collection	Planned Down Days	Pack-ing Up	Transit From Field	Transit From Ice	Total Days Lost/ Gained	Not Satisfactory	Poor	Satisfactory	Good	Excellent	Rating Not Answered	Yes	No	Not Answered
McMurdo	FY 2003	-23	-31	-3	-4	23	15	3	-3	-10	-33	0	0	1	9	41	1	37	13	2
Mean	FY 1999-2003	-97	-73	-5	-6	15	13	5	-15	-13	-167	0	0	5	11	48	1	35	22	4
Range	FY 1999-2003	-238 to -8	-148 to -20	-16 to 3	-19 to 16	-23 to 53	-3 to 27	3 to 11	-54 to -3	-37 to 6	-470 to 68	0-1	0-1	0-13	9-14	24-72	1-1	4-54	5-69	0-11
Multiple Stations	FY 2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Mean	FY 1999-2003	0	-24	-1	3	12	0	1	1	2	-7	0	0	1	0	2	0	1	2	0
Range	FY 1999-2003	-7-4	-96-1	-4-1	0 to 10	0 to 29	0 to 0	0 to 2	-1 to 3	0 to 4	-89 to 41	0-0	0-0	0-3	0-0	0-5	0-0	0-3	0-5	0-0
Other	FY 2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Mean	FY 1999-2003	-1	-1	0	0	0	0	0	-1	-1	-4	0	0	0	0	1	0	0	1	0
Range	FY 1999-2003	-3-0	-3-0	0-0	-1 to 0	0 to 0	0 to 0	-1 to 0	-3 to 0	-3 to 0	-8 to 0	0-0	0-0	0-0	0-0	0-2	0-0	0-0	0-2	0-0
Palmer	FY 2003	1	0	0	-3	0	0	0	0	1	-1	0	0	1	0	4	0	4	1	0
Mean	FY 1999-2003	-1	-5	0	-3	-27	1	-4	-1	-3	-44	0	0	2	1	1	0	4	3	2
Range	FY 1999-2003	-9to2	-24to0	-1to0	-8 to 0	-102 to 10	0 to 3	-14 to 0	-4 to 0	-25 to 9	-176 to 22	0-1	0-0	0-5	0-1	0-4	0-0	1-9	0-10	0-8
R/V, Field Camps	FY 2003	-2	-3	0	0	-3	-4	0	-2	1	-13	0	1	1	1	12	0	11	4	0
Mean	FY 1999-2003	2	1	-1	-3	-10	0	-2	2	6	-10	1	0	6	2	24	0	15	11	7
Range	FY 1999-2003	-13 to 19	-5 to 7	-2 to 0	-8 to 1	-51 to 55	-17 to 22	-11 to 3	-2 to 7	-2 to 12	-86 to 126	0-2	0-1	0-21	0-8	12-32	0-0	2-23	4-23	0-28
South Pole	FY 2003	-4	0	0	-12	-11	0	0	3	1	-23	0	0	1	1	2	0	4	0	0
Mean	FY 1999-2003	-34	7	2	-7	-46	1	-1	4	0	-75	1	0	3	4	12	0	9	8	2
Range	FY 1999-2003	-56--4	-6-40	0-10	-12 to -1	-152 to -11	-2 to 5	-5 to 2	-2 to 20	-7 to 6	-213 to 0	0-4	0-0	0-8	1-6	2-29	0-0	1-15	0-30	0-9
USCG Icebreaker	FY 2003	0	0	0	0	11	-11	-2	0	0	-2	0	0	0	1	0	0	0	1	0
Mean	FY 1999-2003	2	-1	0	0	4	-4	0	0	1	4	0	0	1	1	1	0	2	1	0
Range	FY 1999-2003	0 to 10	-4 to 0	0 to 0	0 to 1	-1 to 11	-11 to 0	-2 to 2	-1 to 0	0 to 3	-2 to 22	0-0	0-0	0-2	1-1	0-4	0-0	0-4	0-2	0-1
TOTALS	FY2003	-28	-34	-3	-19	20	0	1	-2	-7	-72	0	1	4	12	59	1	56	19	2
Mean	FY 1999-2003	-115	-91	-5	-17	-54	12	-2	-10	-13	-300	2	1	16	20	94	1	65	47	14
Range	FY 1999-2003	-273 to -28	-255 to -16	-18 to 3	-41 to 26	-249 to 111	-12 to 48	-17 to 13	-37 to -1	-51 to 26	-772 to 165	0-8	0-2	3-43	12-29	55-153	1-1	9-99	19-139	1-56

Table 5 Causes of Unproductive Days

Fiscal Years 1999 through 2003

Causes of Unproductive Days	Unproductive Days			Percent of Unproductive Days			Percent of Corrected Unproductive Days *		
	FY2003	FY1999-2003		FY2003	FY1999-2003		FY2003	FY1999-2003	
		Mean	Range		Mean	Range		Mean	Range
Bad Weather	239	461	239-708	66%	51%	36 - 66%	n/a	n/a	n/a
Other Circumstances	65	200	65-332	18%	20%	18 - 24%	54%	43%	29-54%
Transportation	20	129	20-254	6%	12%	6 - 17%	17%	23%	17-33%
Unavailabiity of Cryogenic Materials	0	14	0-51	0%	2%	0 - 7%	0%	4%	0-14%
Delays in Cargo	7	36	7-88	2%	3%	2 - 5%	6%	6%	6-8%
Failure of Equipment / Instruments	14	106	12-405	4%	7%	0 - 23%	12%	13%	4-35%
Inadequate Lab/Observatory Space	0	13	0-28	0%	1%	0 - 2%	0%	2%	0-4%
Incorrect / Insufficient Material	12	39	5-97	3%	3%	1 - 7%	10%	6%	1-13%
Unavailabiity of Science Techs	3	4	0-19	1%	1%	0 - 3%	2%	2%	0-5%
Total Unproductive Days	**360**	1003	360-1787						
Total Corrected Unproductive Days	**121**	542	121-1142						

* Corrected does not include Bad Weather Days

Table 6 Science Project Quality Time minus Bad Weather Days and Percentages of Facility Unproductive Days minus Bad Weather Days

Fiscal Years 1999 through 2003

Facility	Fiscal Year	Responses	# Team Members	Corrected Total Project Days *	Productive Days	Corrected Unproduct. Days *	Unproduct. Days	Percent of Each Cause of Unproductive Days to Corrected Unproductive Days											
								Delay in Cargo	Failure of Equip. /Instr.	Inadequate Lab/ Observ. Space	Incorrect/ Insufficient Material	Cryogenics Unavail	Science Tech Unavail	Air	Surface	RV	Transport. Total	Bad ** Weather	Other Circum-stances
McMurdo	FY 2003	52	240	3085	3016	69	263	10%	14%	0%	14%	0%	1%	19%	1%	0%	20%	74%	39%
Mean	FY 1999-2003	58	284	3945	3771	174	429	11%	11%	2%	4%	0%	0%	42%	2%	0%	44%	59%	28%
Range	FY 1999-2003	39-73	169-396	2891-5914	2784-5537	69-377	263-667	6-13%	4-16%	0-5%	0-14%	0-0%	0-1%	19-54%	0-10%	0-0%	20-56%	43-74%	18-54%
Multiple Stations	FY 2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Mean	FY 1999-2003	3	8	183	134	49	80	0%	1%	0%	0%	0%	0%	49%	0%	1%	50%	39%	49%
Range	FY 1999-2003	0-5	0-13	0-358	0-206	0-187	0-292	0-0%	0-22%	0-0%	0-0%	0-0%	0-0%	0-56%	0-0%	0-22%	0-78%	0-100%	0-51%
Other	FY 2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Mean	FY 1999-2003	1	2	37	35	3	7	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	62%	0%
Range	FY 1999-2003	0-2	0-5	0-122	0-120	0-8	0-14	0-0%	0-0%	0-0%	0-0%	0-0%	0-0%	0-100%	0-0%	0-0%	0-100%	0-83%	0-0%
Palmer	FY 2003	5	23	689	685	4	5	0%	25%	0%	50%	0%	0%	0%	0%	0%	0%	20%	25%
Mean	FY 1999-2003	7	22	985	951	34	77	8%	37%	1%	10%	0%	9%	0%	0%	13%	13%	56%	22%
Range	FY 1999-2003	2-12	7-43	530-1929	497-1838	4-91	5-205	0-14%	0-54%	0-6%	0-50%	0-0%	0-45%	0-0%	0-0%	0-88%	0-88%	20-70%	13-45%
R/V, Field Camps	FY 2003	15	104	332	316	16	33	0%	19%	0%	0%	0%	13%	0%	0%	6%	6%	52%	63%
Mean	FY 1999-2003	30	193	1440	1008	88	144	5%	15%	1%	2%	0%	1%	0%	2%	18%	21%	39%	54%
Range	FY 1999-2003	15-40	85-438	332-3574	316-1716	16-137	33-200	0-12%	0-34%	0-3%	0-5%	0-1%	0-13%	0-1%	0-7%	6-61%	6-61%	32-55%	7-76%
South Pole	FY 2003	4	16	251	224	27	48	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	44%	100%
Mean	FY 1999-2003	15	78	2759	2558	201	274	4%	30%	4%	13%	7%	0%	3%	0%	0%	4%	27%	38%
Range	FY 1999-2003	4-20	16-126	251-5019	224-4500	27-519	48-674	0-16%	0-48%	0-37%	0-28%	0-52%	0-1%	2-7%	0-3%	0-0%	2-10%	23-48%	21-100%
USCG Icebreaker	FY 2003	1	8	8	3	5	11	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	55%	0%
Mean	FY 1999-2003	3	11	105	102	3	9	24%	6%	0%	0%	0%	0%	6%	0%	35%	41%	64%	29%
Range	FY 1999-2003	0-6	0-25	0-361	0-354	0-7	0-29	0-80%	0-14%	0-0%	0-0%	0-0%	0-0%	0-20%	0-0%	0-100%	0-100%	0-100%	0-71%
TOTALS	FY2003	77	391	4365	4244	121	360	6%	12%	0%	10%	0%	2%	11%	1%	5%	17%	66%	54%
Mean	FY 1999-2003	116	554	9067	8525	542	1003	7%	20%	2%	7%	3%	1%	19%	1%	4%	24%	46%	37%
Range	FY 1999-2003	77-150	391-705	4365-14957	4244-13816	121-1141	360-1786	6-8%	4-35%	0-4%	1-13%	0-14%	0-5%	11-28%	0-4%	2-11%	17-33%	36-66%	29-54%

* Corrected = Bad Weather Days are not included

** Percentage = Bad Weather of Total Unproductive Days

Table 7 Facility Contribution to Productive and Unproductive Days

Fiscal Years 1999 through 2003

Facility	Fiscal Year	Corrected Total Project Days *	Productive Days	Corrected Unproduct. Days *	Facility Percent of			
					Facility Productive Days	Facility Unproductive Days	Total Productive Days	Total Unproductive Days
McMurdo	FY 2003	3085	3016	69	98%	2%	71%	57%
Mean	FY 1999-2003	3945	3771	174	96%	4%	47%	36%
Range	FY 1999-2003	2891-5914	2784-5537	69-377	94-98%	2-6%	36-71%	27-57%
Multiple Stations	FY 2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Mean	FY 1999-2003	183	134	49	73%	27%	1%	6%
Range	FY 1999-2003	0-358	0-206	0-187	0-100%	0-52%	0-2%	0-24%
Other	FY 2003	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Mean	FY 1999-2003	37	35	3	93%	7%	0%	0%
Range	FY 1999-2003	0-122	0-120	0-8	0-98%	0-30%	0-1%	0-1%
Palmer	FY 2003	689	685	4	99%	1%	16%	3%
Mean	FY 1999-2003	985	951	34	97%	3%	11%	5%
Range	FY 1999-2003	530-1929	497-1838	4-91	94-99%	1-6%	6-16%	3-9%
R/V, Field Camps	FY 2003	332	316	16	95%	5%	7%	13%
Mean	FY 1999-2003	1440	1008	88	70%	6%	11%	21%
Range	FY 1999-2003	332-3574	316-1716	16-137	4-95%	4-15%	7-18%	5-38%
South Pole	FY 2003	251	224	27	89%	11%	5%	22%
Mean	FY 1999-2003	2759	2558	201	93%	7%	27%	31%
Range	FY 1999-2003	251-5019	224-4500	27-519	89-97%	3-11%	5-38%	22-45%
USCG Icebreaker	FY 2003	8	3	5	38%	63%	0%	4%
Mean	FY 1999-2003	105	102	3	97%	3%	1%	2%
Range	FY 1999-2003	0-361	0-354	0-7	0-100%	0-63%	0-4%	0-4%
TOTALS	FY2003	4365	4244	121	97%	3%		
Mean	FY 1999-2003	9067	8525	542	94%	6%		
Range	FY 1999-2003	4365-14957	4244-13816	121-1141	92-100%	3-8%		

* Corrected = Bad Weather Days are not included

Table 8 Effectiveness of Planning
Average Days Lost/Gained

Fiscal Years 1999 through 2003

Facility	Fiscal Year	Average Days Lost (-) Gained (no sign)		
		FY2003	Mean FY 1999-2003	Range FY 1999-2003
McMurdo	FY 2003	-1	-3	-6 to 1
Multiple Stations	FY 2003	n/a	-1	-22 to 14
Other	FY 2003	n/a	-3	-8 to 0
Palmer	FY 2003	0	-2	-16 to 11
R/V, Field Camps	FY 2003	-1	2	-10 to 33
South Pole	FY 2003	-5	-5	-13 to 0
USCG Icebreaker	FY 2003	-2	3	-2 to 17
TOTALS	**FY2003**	**-1**	**-2**	**-6 to 1**

Table 9 Rating of Support Provided

Fiscal Years 1999 through 2003

Facility	Fiscal Year	Rating of Support Provided (Percent of Satisfied + Good + Excellent)		
		FY2003	Mean FY 1999-2003	Range FY 1999-2003
McMurdo	FY 2003	100%	99%	97 - 100%
Multiple Stations	FY 2003	n/a	100%	100-100%
Other	FY 2003	n/a	100%	100-100%
Palmer	FY 2003	100%	99%	95 - 100%
R/V, Field Camps	FY 2003	93%	98%	93 - 100%
South Pole	FY 2003	100%	97%	90 - 100%
USCG Icebreaker	FY 2003	100%	100%	100 - 100%
TOTALS	FY2003	99%	98%	96 - 100%

NOTE: FY1999-2000 represents sum of Satisfied and Excellent.

Table 10 Survey Design Captured Facility Support

Fiscal Years 1999 through 2003

Facility	Fiscal Year	Design Captured Facility Support (Affirmative Percentage)		
			Mean	Range
		FY2003	FY 1999-2003	FY 1999-2003
McMurdo	FY 2003	71%	79%	71 - 86%
Multiple Stations	FY 2003	n/a	75%	25-100%
Other	FY 2003	n/a	100%	100-100%
Palmer	FY 2003	80%	67%	50 - 80%
R/V, Field Camps	FY 2003	73%	69%	48 - 85%
South Pole	FY 2003	100%	83%	71 - 100%
USCG Icebreaker	FY 2003	0%	49%	0-84%
TOTALS	FY2003	73%	72%	64-82%

Table 11 Suggestions For Improving the USAP Research Support Facilities Survey

McMurdo

Project	1	The support provided was much more complex than what is represented here: GIS, helicopters, carpenters, MEC-solar, BFC, etc.
Project	2	Because our group was divided into two parts, some days were productive for one part of the group and unproductive for the other part.
Project	3	Can't encapsulate productivity/effectiveness of field season in productive versus nonproductive days. We found it hard to estimate our days lost, mainly due to the Note (1) which says “use elapsed calendar days rather than person-days”. Our team consisted of 7 people this season, and frequently (if not always) we were split into groups of 2 or 3 while working. When members were stuck in the field because of weather, the others may have been in the lab working or at another field site. We found section 3 impossible to fill in. We think most scientists that work on the ice appreciate the reality of working on the “harsh continent” and we expect to lose days to weather or mechanical problems with planes, etc. For that reason, we never plan how many days each of the activities will take. Sure, we have a rough idea, but we never put numbers on them, so we would not feel good about putting them on the form. We notice section 3, #6 asks for our planned minus actual down time - does anyone plan for down time? If you plan for it, then should you include it in this calculation?
Project	4	We found it hard to estimate our days lost, mainly due to the Note (1) which says “use elapsed calendar days rather than person-days”. Our team consisted of 7 people this season, and frequently (if not always) we were split into groups of 2 or 3 while working. When members were stuck in the field because of weather, the others may have been in the lab working or at another field site. We found section 3 impossible to fill in. We think most scientists that work on the ice appreciate the reality of working on the “harsh continent” and we expect to lose days to weather or mechanical problems with planes, etc. For that reason, we never plan how many days each of the activities will take. Sure, we have a rough idea, but we never put numbers on them, so we would not feel good about putting them on the form. We notice section 3, #6 asks for our planned minus actual down time - does anyone plan for down time? If you plan for it, then should you include it in this calculation?
Project	5	I plan for errors, mistakes, bad weather, etc. so it is difficult to complete the form (as planned - actual comparison).
Project	6	List helo support.
Project	7	Everything was great except found the housing solution to be slightly problematic.
Project	8	Not totally as more comprehensive planning meeting would have helped science/air crew in research on inadequate weather reporting/forecasting overcome by unusual circumstances above planning required (see 4b).
Project	9	No reference to days spent in coordination and administration with Raytheon.
Project	10	It might be more beneficial to ask about support from the different groups: IT, BFC, Sci Cargo, etc.
Project	11	It's hard to judge the season in terms of productive vs. unproductive days. For example, we lost most of a day to bad weather, but that evening we pulled up one of the best cores of the season, making it a very productive day.
Project	12	Need more detail. Quantity of days does not necessarily equal quality of support.
Project	13	This form version is an improvement over the previous one. We have however submitted other quality criteria suggestions in previous surveys (e.g. the questions in this section are not as simple as giving overall support single rating, nor is the survey capture question a mere yes/no answer). For example - we don't see how from this survey RPSC can go about targeting specific problem areas other than some aspects of transportation.

Palmer

Project	1	Pay attention to the detailed outbriefs from both Palmer Station and the L.M. Gould, rather than attempting to force fundamentally non-quantifiable information into some type of form that can be put in a spreadsheet.
Project	2	This form version is an improvement over the previous one. We have however submitted other quality criteria suggestions in previous surveys (e.g. the questions in this section are not as simple as giving overall support single rating, nor is the survey capture question a mere yes/no answer). For example - we don't see how from this survey RPSC can go about targeting specific problem areas other than some aspects of transportation.

Table 11 Suggestions For Improving the USAP Research Support Facilities Survey

R/V, Field Camps

Project	1	This rating reflects the unavailability of the DUSH-6 winch.
Project	2	The whole idea of productive vs. unproductive days strikes me as very odd. Even bad weather days can be put to some productive use by writing papers and analyzing data.
Project	3	Planned-Actual section (3) has overlapping categories, so (10) is irrelevant.
Project	4	The top of this form cannot be read in full. Difficult to write and edit the responses on this and the next two lines.

South Pole

Project	1	This form version is an improvement over the previous one. We have however submitted other quality criteria suggestions in previous surveys (e.g. the questions in this section are not as simple as giving overall support single rating, nor is the survey capture question a mere yes/no answer). For example - we don't see how from this survey RPSC can go about targeting specific problem areas other than some aspects of transportation.

USCG Icebreaker

Project	1	No. Clearly the entire year was lost to my project, but what is not clear is why; it was due to ice conditions and the decision of the Coast Guard and NSF to delay and ultimately cancel my second cruise.

Table 12 Describe USAP Support

McMurdo

Project	1	It would be beneficial to make the aquarium seawater pump independent of the town water supply. There were several times when the aquarium pump was turned off and put our experimental animals in danger due to the increase in temperature that accompanied the water shut-off.
Project	2	Seal weighing sled was not working 18 days out of the season. These are not counted as unproductive days because we did other work, but the failure of this equipment prevented us from gaining valuable data and significantly detracted from overall scientific productivity.
Project	3	It would be nice to have cargo and lab equipment available when we arrive on station. Scheduling for training could be made more convenient (sea ice and happy camper in 3 days), computer services need site licenses for other virus programs to make interactivity with others safe and easy.
Project	4	Radio comms among 3 camps were abysmal; improved with Iridium phones.
Project	5	Retro transport of samples, wasted time in completing necessary "training" programs, esp. waste management. (This could be done as Web-based "off time" training)
Project	6	Slowness of Internet service affected progress. This is the worst experience of Internet speed since 1993-4, my first field season in McMurdo.
Project	7	(See my debriefing remarks). Communication concerning helo scheduling and day to day planning might be improved.
Project	8	Weather and holidays, both beyond RPSC control, were the big problems.
Project	9	Communication with our POC, Doug Miller, was difficult when misunderstandings arose over who to provide training on our new system to.
Project	10	It was very supportive, but chain of responsibility wasn't always clear. Individuals were very helpful, however.
Project	11	There were FLIGHT WEIGHT PROBLEMS. Too much food and comm gear. Need more awareness of weight limits.
Project	12	The travel office in Christchurch was less helpful than expected, causing me to wait over 30 minutes before they could answer a simple question. They were responsible for assigning us an incorrect time to report for clothing issue. We were told 13:00, while the clothing providers were told 14:00.
Project	13	Better planning/coordination of aquarium maintenance activity and the projects that use the facility as a vital piece of equipment.
Project	14	Cargo should travel with field part (or before). Warm space is required for investigative science work in East Antarctica.
Project	15	1. Primary request on SIP and with discussions was for clean, adequate power to run high demand instruments in sea ice camp. Provided system was underpowered, unreliable and poorly constructed. MEC had to spend an inordinate amount of time trying to keep it going and 8 weeks into the project we were still trying to shuttle temporary fixes and wiring into camp. MEC did a great job keeping it alive, but just barely. 2. Too much time was spent having to keep camp running in heavy storms due to poorly designed huts and buildings. 3. Raytheon should consider having one person who handles sea ice camp issues. We are too small for the big, managed, deep field project, but too big for us to do completely by ourselves. Consequently, a large amount of time was spent in early season just trying to find out about how to get water, fuel, and supplies back and forth to our camp.
Project	16	MCC failed to transfer our equipment to Willey Field for put in. This tied up the Twin Otter and crew for several hours. Joni English resolved this problem, but she had similar experiences this season with MCC and TO flights. She had reminded MCC of our flight the previous evening. The MCC coordinator should review the TO schedule more carefully and relay the info to MCC crews.
Project	17	Field training quite extensive and not too much oriented towards specific project (but of very high quality with capable and pleasant instructors). Miscommunication/coordination between disparate units (MEC, BFC, supply) lead to insufficient equipment and added time/hassle.

Table 12 Describe USAP Support

Project	18	Problem: Tent flyer anchor strings too short. Solution: Inspect before RFI tag.
Project	19	Lack of transportation to/from Arrival Heights - This issue is cited every year. Contrary to what was originally hoped, 'new trucks' have not resolved anything and the shuttle management was not pleased with having run a vehicle up there several times daily, even though there were no less than 4 science groups working up there at one time. The Research Associate gladly filled-in where shuttle support was unavailable/problematic, however at the cost (more expensive and necessary) of his availability to support the research groups. Proposed Solution: more vehicles and more shuttle ops dedicated to science. This is fairly simple to resolve. ESP (Formerly SIPs): While not part of the on-ice experience, they are certainly a contributor to the quality and success of a project's objectives. We had to go through the exercise of completing the ESPs twice. (each for 3 sites), and spent a reasonable amount of time with RPSC in attempt to get submittals to register. Ultimately, we learned that the information submitted was never distributed to our science/technical POCs and relevant station personnel. Proposed Solution: Get away from Citrix and go to a web-portal based SQL platform for this. This will first eliminate the need for a client-side app to be installed and administered - which also does away with the issues of the multi-OS reality of the user base. Easier to develop, more secure (particularly if SSL is implemented - less user overhead required), and easier to administrate/repair/mirror backup/manage. Also - do the design in-house and farm out the development. Then hire those folks from the development team who would be best suited for administration of the system. Travel - There are problems on the Denver and McMurdo-side of travel operations, (Christchurch was great) as options were too restrictive and as a result - the NSF is NOT getting "best value". Particularly “supervisory'” personnel in travel at McMurdo and Denver seem to be inexperienced and lack “can-do” ability - on the plus side, the subordinates to these staff seemed to be significantly more professional and knowledgeable. Until 1 to 1.5 years ago (through Cindy's tenure as travel supervisor) travel was one of the most professional, flexible and accommodating aspects of the program. This level of service no longer exists, direct travel (flight) and lost manpower costs have increased during this recent period, due to this inflexibility. The value of personnel costs seems to have gotten lost, when travel cost issues are considered. Proposed Solutions: perhaps we need to consider doing these arrangements for ourselves. RPSC could farm this out this activity to a large commercial travel agency, that can provide professional service, more flexibility and options at lower cost. Housing Management/Supervision (not the doling out of keys, etc. - coordination) at both McMurdo and South Pole were again handled poorly this season. This is a chronic problem and does result in reduced productivity, both in planning and while on station. Inter-RPSC communication was the principal cause that we could discern in planning misunderstandings; which may be attributable to the ESP/SIP issue (at least partially). On station, our perception is that issues lie with housing supervisor's micromanagement, lack of empowerment, and (lack of) communication with of subordinate staff as root causes. Proposed Solution: perhaps Hotel Management professionals (or a subcontracted hotel chain personnel) are more well suited for these positions. On the positive side, this was the first time in 5 years we received RSPs; it was the first time in 4 years that cargo was ROS (at least, so far, not yet returned to institution); it was the first time ever (in 15 years) that we automatically received TCNs from Port Hueneme, it was also the least amount of time ever from San Diego to Pole (6 days) - and it could have been shorter if it weren't for RPSC travel in Denver. Science Support was exceptional during visits this season. From arrival to departure at both Pole and McMurdo, the level of professionalism and “can do” approach to everything was not only refreshing, but made the visits a pleasure. We would like to thank Johan Booth, Seth White, Al Baker, Steve Alexander - Steve Dunbar, USAP Cargo at Christchurch, Pole and McMurdo, and all the others behind-the-scenes for their assistance. Folks, you did a great job!
		Palmer
Project	1	Our research activities involve complicated biochemical protocols, in which the absence of one item can render an experiment impossible to perform. This accounts for the loss of 2 days under the B4 above. The solution is to ensure that the PI receives regular material procurement statements prior to deployment.

Table 12 Describe USAP Support

Project	2	Lack of transportation to/from Arrival Heights - This issue is cited every year. Contrary to what was originally hoped, 'new trucks' have not resolved anything and the shuttle management was not pleased with having run a vehicle up there several times daily, even though there were no less than 4 science groups working up there at one time. The Research Associate gladly filled-in where shuttle support was unavailable/problematic, however at the cost (more expensive and necessary) of his availability to support the research groups. Proposed Solution: more vehicles and more shuttle ops dedicated to science. This is fairly simple to resolve. ESP (Formerly SIPs): While not part of the on-ice experience, they are certainly a contributor to the quality and success of a project's objectives. We had to go through the exercise of completing the ESPs twice. (each for 3 sites), and spent a reasonable amount of time with RPSC in attempt to get submittals to register. Ultimately, we learned that the information submitted was never distributed to our science/technical POCs and relevant station personnel. Proposed Solution: Get away from Citrix and go to a web-portal based SQL platform for this. This will first eliminate the need for a client-side app to be installed and administered - which also does away with the issues of the multi-OS reality of the user base. Easier to develop, more secure (particularly if SSL is implemented - less user overhead required), and easier to administrate/repair/mirror backup/manage. Also - do the design in-house and farm out the development. Then hire those folks from the development team who would be best suited for administration of the system. Travel - There are problems on the Denver and McMurdo-side of travel operations, (Christchurch was great) as options were too restrictive and as a result - the NSF is NOT getting "best value". Particularly “supervisory” personnel in travel at McMurdo and Denver seem to be inexperienced and lack “can-do” ability - on the plus side, the subordinates to these staff seemed to be significantly more professional and knowledgeable. Until 1 to 1.5 years ago (through Cindy's tenure as travel supervisor) travel was one of the most professional, flexible and accommodating aspects of the program. This level of service no longer exists, direct travel (flight) and lost manpower costs have increased during this recent period, due to this inflexibility. The value of personnel costs seems to have gotten lost, when travel cost issues are considered. Proposed Solutions: perhaps we need to consider doing these arrangements for ourselves. RPSC could farm this out this activity to a large commercial travel agency, that can provide professional service, more flexibility and options at lower cost. Housing Management/Supervision (not the doling out of keys, etc. - coordination) at both McMurdo and South Pole were again handled poorly this season. This is a chronic problem and does result in reduced productivity, both in planning and while on station. Inter-RPSC communication was the principal cause that we could discern in planning misunderstandings; which may be attributable to the ESP/SIP issue (at least partially). On station, our perception is that issues lie with housing supervisor's micromanagement, lack of empowerment, and (lack of) communication with of subordinate staff as root causes. Proposed Solution: perhaps Hotel Management professionals (or a subcontracted hotel chain personnel) are more well suited for these positions. On the positive side, this was the first time in 5 years we received RSPs; it was the first time in 4 years that cargo was ROS (at least, so far, not yet returned to institution); it was the first time ever (in 15 years) that we automatically received TCNs from Port Hueneme, it was also the least amount of time ever from San Diego to Pole (6 days) - and it could have been shorter if it weren't for RPSC travel in Denver. Science Support was exceptional during visits this season. From arrival to departure at both Pole and McMurdo, the level of professionalism and “can do” approach to everything was not only refreshing, but made the visits a pleasure. We would like to thank Johan Booth, Seth White, Al Baker, Steve Alexander - Steve Dunbar, USAP Cargo at Christchurch, Pole and McMurdo, and all the others behind-the-scenes for their assistance. Folks, you did a great job!

R/V, Field Camps

Project	1	Primary issue involved better communication both within Raytheon groups (POC and medical for example) and information at more times prior to departure about purchasing of requested items.
Project	2	Failure of the UPS on the NBP caused complete shutdown of scientific instruments and computers until such equipment was placed on ships power. Left port (Lyttelton) with redundant UPS.
Project	3	We experienced a logging system failure which resulted in loss of data. The loss was minimized by having a backup system ready. Running this system as a redundant data logger we may have avoided data loss.
Project	4	The failure/unavailability of the DUSH-6 winch (see separate "marinesurveyGWB" doc file).
Project	5	I suggest we have more frequent access to email, in particular if a coordinated ship/aircraft mission is carried…
Project	6	See cruise report.
Project	7	Support was excellent.
Project	8	Ship leaves port late and arrives early. NSF and RPSC should resolve this issue with ECO.

Table 12 Describe USAP Support

Project 9

1. The ship's captain and crew, and the RPS crew were exceptional on this cruise. With the addition of a pastry cook, the food which is always good on this ship got even better.
2. All the equipment on the ship worked well with one exception. The Dush 6 winch was pulled off its stand during dragging operations. Fortunately, no one was hurt, and we had already gotten most of the mooring we were dragging.
3. The people working in the port dry lab frequently complained of fumes that made them feel sick. Skip (MPC) said that the best way to keep this room fresh was to have both doors (to the hall and to the dry labs) open and…

Project 10

The line above this cannot be typed on because it is made up of tiny boxes.

South Pole

Project 1

1. NOTE: The number of clear days for observing was low compared to previous seasons.
2. Set-up was slowed significantly by bad weather.
3. Season was 12 days shorter than that planned for due to cargo restrictions. Solution, PI must in future request COMAIR retro in original SIP if season is to extend beyond mid-January. Wording in SIP for 2002-03 was too vague.

Project 2

Our cargo, which was needed for experimentation at South Pole, was missed at McMurdo for a few days, while our stay at South Pole was for a week. I would like to suggest to carry and track cargo properly.

Project 3

Advance notice of the type and duration of power interruptions would be very useful.

Project 4

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